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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,616	07/15/2003	Tohru Ozaki	240324US-2 TTC DIV	5367
22850	7590	05/19/2005	EXAMINER ECKERT II, GEORGE C	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ART UNIT 2815	PAPER NUMBER

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/618,616	<b>Applicant(s)</b> OZAKI ET AL.	
	<b>Examiner</b> George C. Eckert II	<b>Art Unit</b> 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 30 and 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30 and 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/2/05</u> . | 6) <input type="checkbox"/> Other: _____  |

*Response to Amendment*

1. Applicant's amendment dated March 2, 2005 in which claims 30 and 31 were amended has been entered.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 30 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,366,488 to Zambrano et al. Zambrano et al. teach, with reference to figures 1 and 4 a method of making a memory device comprising:

forming a cell transistor (e.g. 2, fig. 4) including first and second impurity diffused regions 7, a gate 9 between the impurity regions on the substrate 6;

forming a block transistor (3, fig. 1) including third and fourth impurity regions and a gate there between (inherent) and adjoined to the cell transistor (see fig. 1 showing the block transistor adjoining the memory transistors 2, col. 2, lines 54-56);

forming a lower electrode 11 over the cell and block transistors and connected to the first impurity region 7;

forming a ferroelectric 12 on the lower electrode 11;

forming an upper electrode 13 on the ferroelectric and into a first and second upper electrode (as seen by the upper electrode's T shape, col. 3, lines 35-37);

forming the lower electrode and ferroelectric layer into a capacitor shape (as seen in figure 4, the lower electrode and ferroelectric serve as components of a capacitor);

forming a wiring layer 8 connecting between the first upper electrode and the second impurity diffused region; and

covering the second upper electrode with an insulating layer 14 such that the second upper electrode is insulated from the impurity diffused regions by the insulating layer and the ferroelectric layer (col. 3, lines 42-44).

3. Claims 30 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by *A Sub-40-ns Chain FRAM Architecture with 7-ns Cell-Plate-Line Drive* to Takashima et al. Takashima et al disclose in figure 5b and in the paragraph bridging pages 1559-60 a method of making a device comprising:

forming a cell transistor including impurity diffused regions and a gate there between (any of transistors WLs);

forming a block selecting transistor adjoining the cell transistor (see fig. 5a, "Block Select");

forming a lower electrode over the transistors and connected to the first impurity region of the cell transistor, forming a ferroelectric layer over the lower electrode, forming an upper electrode comprised of two parts over the ferroelectric layer and forming a wiring layer to connect the first upper electrode to the second impurity region; and

covering the second upper electrode with insulating layer such that the second upper electrode is insulated from the diffusion regions by the insulation layer and the ferroelectric layer.

4. Claim 30 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by US 6,759,251 to Ozaki. The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131. Ozaki shows in figures 2A-G the instantly claimed method.

#### *Response to Arguments*

5. Applicant's arguments filed March 2, 2005 have been fully considered but they are not persuasive. As part of the argument, Applicant explains the present invention including the purpose of the second upper electrode and points to instant figure I which shows a second upper electrode 25 having the purpose of reducing micro-loading effects. Upper electrode 25 is insulated from and not electrically connected to any diffusion region. However, the claim language is not so narrowly construed. Rather, the claim merely cites a second upper electrode, now covered with insulation, such that the insulation and ferroelectric layer isolate the electrode from the diffusion regions. This limitation is taught by the prior art. Zambrano's insulation 14 covers the first and second upper electrodes (the right and left arms of the T-shaped upper

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electrode 13) and, with the ferroelectric layer 12, isolates the upper electrode 13, from the diffusion regions 7. Takashima and Ozaki '251 also teach the new limitation in that the upper electrode in both references is insulated from, which is to say isolated from, the diffusion regions. Despite arguments to the contrary, the amended limitation requires no more than the isolation already taught in the art. As such, the arguments are not persuasive.

### *Conclusion*


6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Eckert II whose telephone number is (571) 272-1728.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**GEORGE ECKERT**  
**PRIMARY EXAMINER**